

REMARKS

The present claims relate to a polymeric fluorescent substance exhibiting fluorescence in the solid state, a polymer light emitting device, a flat light source, a segment display, a dot matrix display, and a liquid crystal display.

Amendment Summary

Following entry of this Amendment, claims 1, 3, and 6-27 will be pending.

Claim 1 is amended to incorporate the subject matter of claim 4. Claims 4 and 5 are canceled.

Applicants respectfully submit that no new matter is added by this Amendment.

Entry of the Amendment is respectfully requested along with reconsideration and review of the claims on the merits.

Status of the Claims

Claims 1, 3, and 6-27 are twice rejected under 35 U.S.C. § 112 - once for allegedly failing to comply with the written description requirement and once for allegedly being indefinite. Claims 1 and 3-27 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Shi. Finally, Claims 1 and 3-27 are also rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Noguchi.

Response to Claim Rejections - 35 U.S.C. § 112

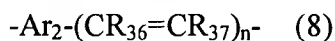
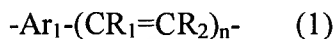
With regard to the rejection for failing to comply with the written description requirement, the Office Action stated that Ar₂ was broader than disclosed in the original disclosure. Applicants have amended claim 1 to further define Ar₂ such that Ar₂ is not broader than originally disclosed.

With regard to the rejection for indefiniteness, the Office Action stated that R₂₃-R₂₉ were not defined within the groups excluded for Ar₂. Applicants have amended claim 1 such that a definition of R₂₃-R₂₉ is unnecessary.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C. § 112.

Response to Claim Rejections - 35 U.S.C. § 103

The present claims relate to a polymeric fluorescent substance that exhibits fluorescence in the solid state. This polymeric substance comprises repeating units of formula (1) and formula (8).



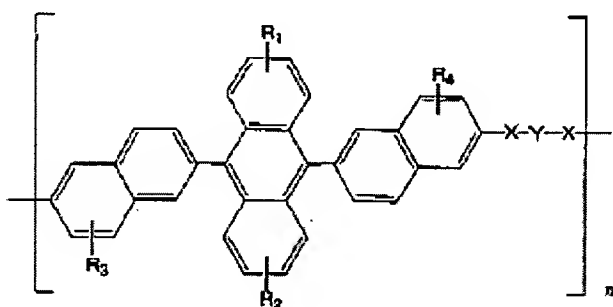
Ar₁ is a divalent group represented by any one of the formulae (2) to (7). See claim 1. Each of formulae (2) to (7) have at least one alkoxyphenyl substitution.

In addition, Ar₂ is further defined to represent a group represented by formula (2').

Applicants respectfully submit that the cited prior art fails to disclose or suggest the present invention.

§ 103 rejection based on Shi et al. (U.S. Patent No. 6,361,887)

Shi discloses polymeric luminescent materials which include 9,10-di-(2-naphthyl)anthracene based polymers of the formula below.



In the polymer, Shi uses a specific primary wide energy bandgap chromophor of 9,10-di-(2-naphthyl)anthracene.

On the other hand, in the present invention, a naphthalene unit in claim 1 is used as a monomeric unit itself and it is not necessary to be used together with an anthracene group, and the naphthalene unit is usually randomly distributed in the polymer main chain.

In addition, Shi does not disclose or teach the presently claimed copolymer. Specifically, Shi does not disclose a copolymer comprising a repeating divalent group represented by formula (1) and a fluorene structure represented by formula (2'), as required by the present claims.

Furthermore, Shi does not concretely teach the alkoxyaryl substituent on the naphthyl group.

Accordingly, Applicants respectfully request that the § 103 rejection based on Shi be

reconsidered and withdrawn.

§ 103 rejection based on Noguchi et al. (EP 1043382A2)

Noguchi discloses various naphthylene groups but does not disclose those having an alkoxyaryl substituent.

In addition, Noguchi does not disclose or teach the presently claimed copolymer. Specifically, Noguchi does not disclose a copolymer comprising a repeating divalent group represented by formula (1) and a fluorene structure represented by formula (2'), as required by the present claims.

The favorable effect of using naphthylene groups having alkoxyaryl substituent is shown in Examples 3 to 6, 8, 9, 12, and 15 to 20 of the present specification.

Accordingly, Applicants respectfully request that the § 103 rejection based on Noguchi be reconsidered and withdrawn.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. §1.114(C)
Application No. 09/995,814

Attorney Docket No.: Q67430

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

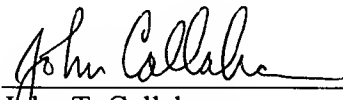
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